

**Re: Starship flight 4 - June 6, 2024****Perez, Chris** <chris\_perez@fws.gov>

Fri 6/7/2024 1:50 PM

To: Bilodeau, Stephanie A <stephanie\_bilodeau@fws.gov>; Orms, Mary <mary\_orms@fws.gov>; Gardiner, Dawn <dawn\_gardiner@fws.gov>; Reyes, Ernesto <ernesto\_reyes@fws.gov>; Reagan Faught <Reagan.Faught@tpwd.texas.gov>; Kristen Eggers <Kristen.Eggers@tpwd.texas.gov>; Willy Cupit <Willy.Cupit@tpwd.texas.gov>; Liana Garcia <Liana.Garcia@tpwd.texas.gov>

Cc: DeLaGarza, Imer <Imer\_DeLaGarza@fws.gov>

**Thanks Stephanie!**

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**From:** Bilodeau, Stephanie A <stephanie\_bilodeau@fws.gov>**Sent:** Friday, June 7, 2024 1:08 PM

**To:** Perez, Chris <chris\_perez@fws.gov>; Orms, Mary <mary\_orms@fws.gov>; Gardiner, Dawn <dawn\_gardiner@fws.gov>; Reyes, Ernesto <ernesto\_reyes@fws.gov>; Reagan Faught <Reagan.Faught@tpwd.texas.gov>; Kristen Eggers <Kristen.Eggers@tpwd.texas.gov>; Willy Cupit <Willy.Cupit@tpwd.texas.gov>; Liana Garcia <Liana.Garcia@tpwd.texas.gov>

**Cc:** DeLaGarza, Imer <Imer\_DeLaGarza@fws.gov>

**Subject:** Starship flight 4 - June 6, 2024

Good afternoon,

The 4<sup>th</sup> starship flight occurred yesterday, June 6, at approximately 7:50am. Attached is a post-launch report describing impacts observed on-site following the launch. Please let me know if you have any questions!

Thank you,

**Stephanie Bilodeau**

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## **SpaceX Starship Flight 4 Post-Launch Report – June 6, 2024**

The 4<sup>th</sup> starship flight occurred on June 6, 2024 at approximately 7:50. The road was re-opened quickly at around 8:35 and I arrived on-site around 10:00. It is my understanding that SpaceX staff had not entered the flats to investigate any debris at this point at the direction of TPWD.

I met up with Coastal Bend Bays & Estuaries Program (CBBEP) staff and SpaceX staff and we entered the debris field together to minimize potential disturbance to nesting birds. The main debris field was located within state park property north of the launch pad and was approximately 5 acres in size and contained mainly metal sheeting and insulation from a tank/piping on the launch pad (Figure 1 & Figure 4). The furthest piece of debris identified in this area was approximately 285 meters from the orbital launch mount. We determined there was not any active nesting within this debris field, so SpaceX was given permission by TPWD to retrieve this new debris which was done in less than half an hour.



Figure 1. Metal sheeting debris in the flats on the north side of the launch pad.

Three additional pieces of metal sheeting were identified northwest of the launch pad within state park property (locations of two of these are 25.999050, -97.159690 and 25.999680, -97.159330), with the furthest piece measuring approximately 600 meters from the orbital launch mount (Figure 4). Upon entrance to this area, Wilson's Plovers were heard calling so the three pieces of debris were carefully retrieved while we were out there to prevent the need for re-entry.

A small fire had started south of the launch pad in vegetation within the state park property shortly after the launch but was quickly self-extinguished (Figure 2 & Figure 4).

The burned area was approximately 400 sq. ft. in size and no deceased wildlife were observed.



Figure 2. A small burned area southwest of the launch pad on state park property approximately 400 sq. ft. in size.

The extent of the deluge water south of the pad was difficult to determine. Upon arrival to the area at 11:00, standing water was contained to SpaceX property, however much of the sand flat south of SpaceX property appeared to have been wet prior to our arrival based off the darker color and smoothness of the surface compared to the day before when the surface was lighter in color, dry and crunchy (Figure 3). Though the tide level in the south flats had been relatively high lately, it did not extend far enough to reach this area.







Figure 3. Top: Looking north towards the OLM from state park property the day before the launch, June 5, 2024. Photo taken at 13:53. Bottom: Looking north towards the OLM from state park property after the launch, June 6, 2024. Photo taken at 11:05 at 25.99500, -97.15475.

Debris south of the launch pad was minimal with one piece of concrete about 1 foot in length that had rolled through the flats on state park property and landed approximately 150 meters from the orbital launch mount (Figure 4). However, CBBEP game cameras in the area captured imagery of a considerable amount of smaller debris flying through the air with the plume. A small pebble even broke the lens on one of the cameras and the cameras became caked in mud.

The flats south of the launch pad contained many active Snowy Plover, Wilson's Plover and Least Tern nests prior to the launch. A more in-depth report from CBBEP who monitor those nests will be sent shortly, but preliminary observations showed that these nests were affected by the launch with some nests missing eggs and other nests containing eggs that had been cracked. This is an impact we had not had the chance to encounter previously as this is the first launch to occur in the middle of the nesting season.



Figure 4. A map showing locations of details referenced in this report.